

Title (en)
SEMICONDUCTIVE POLYOLEFIN COMPOSITION COMPRISING CARBONACEOUS STRUCTURES, POWER CABLE COMPRISING THE SAME AND USE THEREOF

Title (de)
HALBLEITENDE POLYOLEFINZUSAMMENSETZUNG MIT KOHLENSTOFFHALTIGEN STRUKTUREN, STROMKABEL DAMIT UND VERWENDUNG DAVON

Title (fr)
COMPOSITION DE POLYOLÉFINE SEMI-CONDUCTRICE COMPRENANT DES STRUCTURES CARBONÉES, CÂBLE ÉLECTRIQUE LA COMPRENANT ET SON UTILISATION

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Abstract (en)
The invention relates to a semiconductive polyolefin composition comprising, (A) 80 to 99.5 wt.% of an olefin polymer base resin based on the total weight of the semiconductive polyolefin composition; (B) 0.1 to 10.0 wt.% of first carbonaceous structures based on the total weight of the semiconductive polyolefin composition; (C) 0.2 to 15.0 wt.% of carbon black and/or second carbonaceous structures based on the total weight of the semiconductive polyolefin composition; and (D) optionally additives; wherein the combined amount of components (B) and (C) is at least 0.3 wt.% and not more than 15.0 wt.% based on the total weight of the semiconductive polyolefin composition; and wherein the semiconductive polyolefin composition has an electrical percolation threshold of not more than 5 wt.% of the combined amount of components (B) and (C) dispersed in the olefin polymer base resin (A), the electrical percolation threshold being defined as the critical concentration in wt.% of the components (B) and (C) in the olefin polymer base resin (A) where an exponential increase in electrical conductivity is observed; wherein the polyolefin composition has a conductivity of at least $1 \cdot 10^{-7}$ S/cm determined according to Broadband Dielectric Spectroscopy for a percolation threshold of 1.0 wt.% or lower and 2-point electrical measurements for a percolation threshold of more than 1.0 wt.%; and wherein components (A) to (D) add up to 100 wt.%.

IPC 8 full level
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C-Set (source: CN EP)

CN
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EP
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4. **C08K 3/046 + C08L 23/10**

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